



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, ILLINOIS 60532-4352

April 30, 2018

EA-17-193

Mr. Mark Bezilla
Site Vice President
FirstEnergy Nuclear Operating Co.
Davis-Besse Nuclear Power Station
5501 N. State Rte. 2, Mail Stop A-DB-3080
Oak Harbor, OH 43449-9760

**SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION—INTEGRATED INSPECTION
REPORT 05000346/2018001 AND EXERCISE OF ENFORCEMENT DISCRETION**

Dear Mr. Bezilla:

On March 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Davis-Besse Nuclear Power Station. On April 16, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC did not identify any issues of more than minor significance.

A violation of the licensee's current site-specific licensing basis for tornado-generated missile protection was identified. Because this violation was identified during the discretion period covered by Enforcement Guidance Memorandum 15-002, "Enforcement Discretion for Tornado Missile Protection Noncompliance" and because the licensee was implementing compensatory measures, the NRC is exercising enforcement discretion by not issuing an enforcement action for the violation and allowing continued reactor operation. This issue was discussed in Inspection Report 05000346/2017003; the associated LER is closed in this report.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Jamnes L. Cameron, Chief
Branch 4
Division of Reactor Projects

Docket Nos. 50-346; 72-014
License Nos. NPF-3

Enclosure:
Inspection Report 05000346/2018001

cc: Distribution via ListServ®

Letter to Mark Bezilla from Jamnes Cameron dated April 30, 2018

SUBJECT: DAVIS-BESSE NUCLEAR POWER STATION—INTEGRATED INSPECTION
REPORT 05000346/2018001 AND EXERCISE OF ENFORCEMENT DISCRETION

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RidsNrrPMDavisBesse Resource
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Darrell Roberts
Richard Skokowski
Allan Barker
DRPIII
DRSIII
ROPreports.Resource@nrc.gov

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OFFICE	RIII						
NAME	JCameron:lg						
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Numbers: 50–346; 72–14

License Numbers: NPF–3

Report Numbers: 05000346/2018001

Enterprise Identifier: I–2018–001–030

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Davis-Besse Nuclear Power Station

Location: Oak Harbor, OH

Dates: January 1 through March 31, 2018

Inspectors: D. Mills, Senior Resident Inspector
J. Harvey, Resident Inspector
J. Rutkowski, Project Engineer
J. Beavers, Reactor Inspector
J. Park, Reactor Inspector
M. Domke, Reactor Inspector
E. Fernandez, Inservice Inspector

Approved by: J. Cameron, Chief
Branch 4
Division of Reactor Projects

SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring licensee's performance by conducting an integrated quarterly inspection at Davis-Besse Nuclear Power Station in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. NRC and self-revealed findings, violations, and additional items are summarized in the table below.

List of Findings and Violations

No findings or violations were identified.

Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
URI	05000346/2017004-02	Interface Between New Accident Range Ventilation Monitors and the Emergency Preparedness Dose Assessment Program	71124.06	Closed
LER	05000346/2017-001-00	Emergency Diesel Generator Fuel Oil Storage Tank Vents Not Adequately Protected From Tornado-Generated Missiles and Enforcement Discretion per EGM 15-002	71153	Closed

PLANT STATUS

The unit began the inspection period operating at full power and entered end-of-cycle power coast down operations on February 11, 2018. On March 3, 2018, the unit shut down and began the plant's 20th refueling outage (see Section 1R20.1). On March 25, 2018, the reactor was taken critical to begin its 21st operating cycle. Main electrical generator synchronization to the electrical power grid occurred on March 27, 2018, and the unit reached full power on March 29, 2018.

INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards."

REACTOR SAFETY

71111.01—Adverse Weather Protection

Impending Severe Weather (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions for extreme cold on January 2, 2018.

71111.04—Equipment Alignment

Partial Walkdown (1 Sample)

The inspectors evaluated system configurations during partial walkdowns of the following systems/trains:

- (1) Component cooling water (CCW) train 2 with CCW train 3 heat exchanger operable but degraded, and CCW train 1 out of service during the week ending February 3, 2018.

71111.05Q—Fire Protection Quarterly

Quarterly Inspection (4 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Radwaste and fuel handling areas air supply equipment area (Room 500) and Radwaste exhaust equipment and main station exhaust fan room, (rooms 501 and 501DC,

- fire area EE) during the week ending March 3, 2018;
- (2) East Penetration Area of annulus space (EL. 585' and 603', partial room 127E, Fire Area A), Southwest Penetration Area of Annulus Space (EL. 585' and 603', partial room 127W), Fire Area AB during the week ending March 3, 2018;
 - (3) Containment (core flood tank, incore instrument trench, reactor coolant pump 1-1 and 1-2, and let down cooler areas (rooms 216, 220, 316, 215, 214) fire area D during the week ending March 24, 2018; and
 - (4) Mechanical penetration rooms 2 and 4 (rooms 115CC, 314, and 314CC), Fire Area A during the week ending March 24, 2018.

71111.08—Inservice Inspection Activities (1 Sample)

The inspectors assessed the effectiveness of the licensee's programs for monitoring degradation of the reactor coolant system boundary, risk-significant piping system boundaries, and the containment boundary by reviewing the following activities from March 5, to 15, 2018:

- (1) Ultrasonic examination/testing (UT) of 14" pipe-to-elbow feedwater line weld. component ID FW-7-EBB-3-125-SW63A;
- (2) UT of 14" pipe-to-elbow feedwater line weld. component ID FW-7-EBB-3-125-SW63B;
- (3) Penetrant examination/testing (PT) of socket weld for 2-1 drain line for high pressure injection-ECCS upstream of valve HP80;
- (4) UT of 6" elbow-to-pipe main steamline weld. component ID MS-3A-EBB-2-2-SWC;
- (5) Magnetic particle examination/testing (MT) of 6" elbow-to-pipe main steamline weld, component ID MS-3A-EBB-2-2-SWC;
- (6) Review of examination record(s) with relevant indications accepted for continued service visual examination/testing (VT) of component RC-MK-A-83-PSU-R2 of the reactor coolant system (report no. 19-VT-154) and visual examination (VT) of component SW-41-HBC-37-HS-AW of the service water system (report no. 19-VT-176);
- (7) Welding of 2-1 drain line for high pressure injection-emergency core cooling pressure boundary welds. WO 200743703;
- (8) Welding of service water pipe line 6"-HBC-35, WO 200710491;
- (9) Bare metal visual examinations of the reactor vessel upper head, WO 200691721;
- (10) Review of boric acid evaluations and corrective action records for a packing leak found on component RC2B2 (CR 2016-04041); a packing leak found on component RC14F (CR 2016-05583); a body to bonnet leak found on component CF30 (CR 2016-04923); and a packing leak found on component CF55 (CR 2016-04720); and
- (11) Eddy current examination/testing steam generator tubes for SG1B and SG2A steam generators.

71111.11—Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated Requalification Training in Simulator on February 15, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated refueling operations covering reactor power reduction, reactor shutdown, mid-loop operations, reactor startup, and low power physics testing during the weeks ending March 3, 10, 17, and 24, 2018.

71111.12—Maintenance Effectiveness

Routine Maintenance Effectiveness (2 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) Startup transformer X01 trip and lockout due to sudden overpressure circuit failure during the week ending January 13, 2018; and
- (2) Auxiliary feedwater (AFW) pump turbine 1 outboard bearing replacement during the week ending March 10, 2018.

71111.13—Maintenance Risk Assessments and Emergent Work Control (4 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) Startup transformer X01 trip and lockout due to sudden overpressure circuit failure during the week ending January 13, 2018;
- (2) CCW ventilation train 2 out of service, low voltage switchgear 2 ventilation fan out of service, main steam line 2 snubber work during the week ending February 14, 2018;
- (3) Safety Features Actuation System (SFAS) Channel 1 Containment Pressure high 1/5 lights unexpectedly lit during the week ending February 20, 2018; and
- (4) Elevated risk refueling operations including RCS drain down during the week ending March 10, 2018.

71111.15—Operability Determinations and Functionality Assessments (8 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) Startup X01 transformer lockout (CR-2018-00190) during the week ending January 13, 2018;
- (2) Emergency core cooling system (ECCS) room cooler 2 fan motor replacement high current and high vibrations (CR-2018-00568, 2018-00569, 2018-00571) during the week ending January 27, 2018;
- (3) SFAS shutdown bypass alarm with no other indications (CR-2018-01379) during the week ending February 17, 2018;
- (4) High flow on station ventilation radiation monitor RE4598AA (CR-2018-01238) during the week ending February 17, 2018;
- (5) SFAS channel 1 containment pressure high 1/5 lights unexpectedly lit (CR-2018-01446) during the week ending February 20, 2018;
- (6) Decay heat pump 2 outboard bearing oil leak (CR-2018-02775) during the week ending March 24, 2018;
- (7) Boric acid found on insulation undervessel (CR-2018-02855) during the week ending March 31, 2018; and
- (8) Containment air cooler air box panels missing several bolts (CR-2018-02681) during the week ending March 24, 2018.

71111.18—Plant Modifications (2 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Startup transformer X01 temporary modification to disable the trip function of the sudden pressure relay during the week ending January 13, 2018; and
- (2) Temporary pressure indicator for makeup/high-pressure injection train 1 during the week ending March 24, 2018.

71111.19—Post Maintenance Testing (5 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) SFAS channel 2 functional test following failure of SFAS channel 2 BA204 LO RCS PRESS TRIP during the week ending January 20, 2018;
- (2) SFAS channel 1 containment pressure high 1/5 Lights unexpectedly lit during the week ending February 24, 2018;
- (3) Closure testing of high pressure injection pump 2 discharge line check valve HP23 during the week ending March 17, 2018;
- (4) Rod drop testing during the week ending March 31, 2018; and
- (5) Reactor coolant system at normal operating pressure and normal operating temperature during the week ending March 31, 2018.

71111.20—Refueling and Other Outage Activities (1 Sample)

The inspectors evaluated refueling outage activities from March 3 to March 28, 2018.

71111.22—Surveillance Testing

The inspectors evaluated the following surveillance tests:

Routine (7 Samples)

- (1) AFW pump valve maintenance dye penetrant testing during the week ending March 10, 2018;
- (2) High pressure injection pump 1 quarterly testing during the week ending February 10, 2018;
- (3) Station battery #1 discharge testing during the week ending March 24, 2018;
- (4) Offsite AC sources bus transfer test during the week ending March 24, 2018;
- (5) SFAS train 1 integrated testing during the week ending March 24, 2018;
- (6) SFAS train 2 integrated testing during the week ending March 24, 2018; and
- (7) ECCS train 2 integrated leakage test during the week ending March 31 2018.

RCS Leakage (1 Sample)

- (1) Reactor coolant system leakage monitoring during the week ending January 27, 2018;

In-service (1 Sample)

- (1) Main steam line relief valve testing during the week of March 3, 2018.

Containment Isolation Valve (1 Sample)

(1) Containment isolation valve 5005/5006 penetration 33 during the week ending March 24, 2018.

71114.06—Drill Evaluation

Emergency Planning Drill (1 Sample)

The inspectors evaluated an Emergency Response Organization drill on January 8, 2018.

RADIATION SAFETY

71124.01—Radiological Hazard Assessment and Exposure Controls

Radiological Hazard Assessment (1 Sample)

The inspectors evaluated radiological hazards assessments and controls.

Instructions to Workers (1 Sample)

The inspectors evaluated worker instructions.

Contamination and Radioactive Material Control (1 Sample)

The inspectors evaluated contamination and radioactive material controls.

Radiological Hazards Control and Work Coverage (1 Sample)

The inspectors evaluated radiological hazards control and work coverage.

High Radiation Area and Very High Radiation Area Controls (1 Sample)

The inspectors evaluated risk-significant high radiation area and very high radiation area controls.

Radiation Worker Performance and Radiation Protection Technician Proficiency (1 Sample)

The inspectors evaluated radiation worker performance and radiation protection technician proficiency.

71124.02—Occupational As Low As Reasonably Achievable Planning and Controls

Radiation Worker Performance (1 Sample)

The inspectors evaluated radiation worker and radiation protection technician performance.

71124.03—In-Plant Airborne Radioactivity Control and Mitigation

Use of Respiratory Protection Devices (1 Sample)

The inspectors evaluated respiratory protection.

71124.04—Occupational Dose Assessment

Source Term Characterization (1 Sample)

The inspectors evaluated the licensee's source term characterization.

OTHER ACTIVITIES – BASELINE

71151—Performance Indicator Verification (3 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) IE01: Unplanned Scrams per 7000 Critical Hours—1 Sample (January 1, 2017 – December 31, 2017);
- (2) IE03: Unplanned Power Changes per 7000 Critical Hours— 1 Sample (January 1, 2017 – December 31, 2017);
- (3) IE04: Unplanned Scrams with Complications) –1 Sample (January 1, 2017 – December 31, 2017);

71152—Problem Identification and Resolution

Annual Follow-Up of Selected Issues (1 Sample)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) Service water piping wall thickness and repair of through-wall leakage (CR 2018–00938).

71153—Follow-Up of Events and Notices of Enforcement Discretion

Licensee Event Reports (1 Sample)

The inspectors evaluated the following licensee event report (see Inspection Report 05000346/2017003 for discussion) which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>:

- (1) Licensee Event Report 05000346/2017–001–00: Emergency Diesel Generator Fuel Oil Storage Tank Vents Not Adequately Protected From Tornado-Generated Missiles and Enforcement Discretion per EGM 15–002 on July 20, 2017, EA 2017–193. This LER is closed.

INSPECTION RESULTS

71124.06—Radioactive Gaseous and Liquid Effluent Treatment

Unresolved Item (Closed)	Title: Interface Between New Accident Range Ventilation Monitors and the Emergency Preparedness Dose Assessment Program 05000346 /2017004-02	71124.06 Radioactive Gaseous and Liquid Effluent Treatment
<p><u>Description:</u> The licensee replaced the accident range station vent monitors in 2014 using ECP 04-0006, Replace Kaman Radiation Monitors. The replacement monitors were manufactured by a different company than the original monitors, had different detection capabilities, different system calibration, and different computer hardware to convert detector output into usable information.</p> <p>The licensee could not immediately provide specifics regarding the interface between the new accident range monitors and the program used during accident conditions for providing dose projections and the resulting protective action recommendations. Specifically, the licensee could not demonstrate how the new accident range monitors accounted for the potentially rapidly changing mixture of radioactive gases during the early phase of a postulated accident.</p> <p>Corrective Action Reference: CR-2018-02710</p> <p>Closure Basis: The licensee provided details regarding how the dose assessment computer program would use the output from vent stack radiation monitor to calculate dose projections and develop protective action recommendations during postulated accident scenarios. Additionally, the licensee developed a graph to describe how the radiation monitor, calibrated to Xe-133, would respond over time to the various radionuclides that would be present in the source term during postulated accidents. The inspectors determined that the time dependent instrument response factor for the radiation monitor would provide results that would be sufficiently representative of the actual discharge and would permit a realistic assessment of projected offsite doses to the population. This would be true for a range of accident conditions from a relatively low source term associated from a fuel gap release through a reactor core melt scenario. Consequently, the inspectors did not identify a performance deficiency and this issue is closed.</p>		

71152—Annual Follow-Up of Selected Issues

Observation	71152—Annual Follow-Up of Selected Issues
	<p>On March 28, 2017, the licensee discovered a through-wall leak in service water piping which it evaluated by ASME code case N-513-3, Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1. This code case permits temporary acceptance of piping flaws, including through-wall flaws, in Class 2 or 3 moderate energy piping without performing a repair/replacement activity.</p> <p>Inspectors verified applicability and compliance to ASME code case N-513-3 by documentation reviews and interviews with engineering personnel. Inspectors reviewed condition reports and associated ultrasonic examination reports to verify flaw geometries were</p>

properly characterized by volumetric inspection methods and planarity, and flaw monitoring was conducted in accordance with the case. Inspectors verified this through-wall flaw was observed by daily plant walkdowns to confirm analysis conditions used in the evaluation remained valid. Inspectors confirmed work management plans are scheduled to replace the affected piping within the period required by the case. Inspectors reviewed the evaluation conducted for a nonplanar, through-wall flaw to assure the licensee-selected branch reinforcement method met the requirements of the case. Inspectors sampled construction code and design specification requirements to assure evaluation inputs were appropriate. Inspectors also reviewed associated prompt operability determinations for completeness and accuracy. The prompt operability determination was revised during this review to enhance the pipe elbow minimum wall thickness descriptions, CR 2018–01158. Inspectors did not observe any licensee performance deficiencies during this problem, identification and resolution review.

71153—Follow-Up of Events and Notices of Enforcement Discretion

Observation	71153 – Followup of Events and Notices of Enforcement Discretion
<p>NRC received Licensee Event Report 05000346/2017–001–00: Emergency Diesel Generator Fuel Oil Storage Tank Vents Not Adequately Protected From Tornado-Generated Missiles and Enforcement Discretion per EGM 15–002 on July 20, 2017.</p> <p>A violation of NRC requirements was documented in report 05000346/2017–003.</p> <p>Enforcement discretion was granted as per EGM 15–002.</p> <p>This Issue is tracked under EA 2017–193</p> <p>This LER is closed.</p>	

EXIT MEETINGS AND DEBRIEFS

The inspectors confirmed that proprietary information was controlled to protect from public disclosure. No proprietary information was documented in this report.

- On March 9, 2018, the inspector presented the occupational radiation safety inspection results to Mr. D. Noble, Radiation Protection Manager, and other members of the licensee staff.
- On March 15, 2018, the inspector presented the inservice inspection activities results to Mr. D. Schriener, and other members of the licensee staff.
- On April 16, 2018, the inspectors presented the quarterly inspection results to Mr. M. Bezilla and other members of the licensee staff.

DOCUMENTS REVIEWED

71111.01—Adverse Weather Protection

- 2018-00305; Trend CR: Increase in Cold Weather Issues
- DB-OP-06913; Seasonal Plant Preparation Checklist; Revision 30
- DB-ME-09521; Preventive Maintenance and Circuit Testing of Freeze Protection and Heat Tracing; Revision 05
- DB-OP-06331; Freeze Protection and Electrical Heat Trace; Revision 28

71111.04—Equipment Alignment

- DB-OP-06262; Valve Line Up Checklist for CCW Pump 2; Revision 38

71111.05Q—Fire Protection Annual/Quarterly

- Pre-Fire Plan, PFP-AB-314, Revision 8, No. 4 Mechanical Penetration Room
- Pre-Fire Plan, PFP-CB-214, Revision 5, Core Flooding Tank Area
- Pre-Fire Plan, PFP-CB-215, Revision 5, Let Down Coolers Area
- Pre-Fire Plan, PFP-CB-220, Revision 5, Incore Instrument Trench Area
- Pre-Fire Plan, PFP-CB-316, Revision 7, Core Flooding Tank Area
- Pre-Fire Plan, PFP-CB-A208, Revision 7, Southwest Penetration Area of Annulus Space, Elevations 585 and 603
- Pre-Fire Plan, PFP-CB-A236L, Revision 4, East Penetration Area of Annulus Space, Elevations 585 and 603
- Pre-Fire Plan, PFP-CB-RCP1-1, Revision 5, Reactor Coolant Pump 1-1
- Pre-Fire Plan, PFP-CB-RCP1-2, Revision 5, Reactor Coolant Pump 1-2

71111.08 – Inservice Inspection Activities

- Procedure 54-ISI-835-016; Ultrasonic Examination of Ferritic Pipe Welds; Date 01/11/2018
- Procedure 54-ISI-836_017; PDI Generic Procedure for Ultrasonic Examination of Austenitic Piping Welds PDI-UT-2; Date 01/11/2018
- Procedure 54-ISI-837-013; Ultrasonic Through Wall Sizing in Piping Welds; Date 01/11/2018
- Procedure 54-ISI-367
- Welding Procedure Specification (WPS) A1-3-1; Gas Tungsten Arc Welding (GTAW) and Shielded Metal Arc Welding (SMAW) of Carbon Steel (P-1), Fillet, Socket, Groove, With or Without Backing; 09/25/2013
- Welding Procedure Specification (WPS) A8-2-1; Gas Tungsten Arc Welding (GTAW) of Stainless Steel (P8), Groove With or Without Backing; 07/09/2014
- Procedure NA-QC-00191; Liquid Penetrant Examination; Revision 08; Date 03/29/2013
- Report No. 19-VT-154; Visual Examination (VT) of RC-MK-A-83-PSU-R2; Date 04/01/2016
- Report No. 19-VT-176; Visual Examination (VT) of SW-41-HBC-HS-AW; Date 04/11/2016
- WO 200743703; High Pressure Injection 2-1 Drain Line; Date 03/04/2018
- WO 200710491; Rework of SW Supply Piping to ARP & CACs; Date 03/08/2018
- WO 200691721; Bare metal Visuals Upper Head; 03/09/2018
- CR 2017-03523; Corroded Piping Upstream of SW260; Date 03/28/2017
- CR 2018-01873; BACC-Active Leak on Socket Weld Upstream of HP80; Date 03/03/2018
- Document Number 0234-TSD-101553; Rev 000; Davis-Besse 1R20-Eddy Current Examination Technique Sheet (ETSS); Date 03/06/2018
- CR 2018-02269; 1R20 Steam Generator Inservice Inspection Eddy Current Examination Identified Tubing Degradation; Date 03/10/2018

- CR 2016-04041; 19R BACC-A Packing Leak was Found on RC2B2; Date 04/12/2016
- CR 2016-04923; 19R BACC-A Body to Bonnet Leak was Found on CF30; Date 04/08/2016
- CR 2016-04720; 19R BACC-A Packing Leak was Found on CF55; Date 04/27/2016
- CR 2018-01912; High pressure injection nozzle/piping thermal fatigue

71111.11—Licensed Operator Requalification Program and Licensed Operator Performance

- OTLC-201801-DB5104; Simulator guide; Revision 0

71111.12—Maintenance Effectiveness

- 2018-00190; Startup Transformer X01 Lockout
- 2018-00215; Swing arm Not fully seating on the east end of C phase on DCS34560A
- NOP-ER-3001; Problem Solving and Decision Making; Revision 06
- NOP-OP-1010; Operational Decision Making; Revision 07
- NOP-OP-1014; Plant Status Control; Revision 05
- DB-OP-06311; 345 KV Switchyard Main Transformer, Auxiliary Transformer, and Startup Transformers
- DB-OP-06322; Locating grounds on the station 250/125 VDC system; Revision 06
- 200739465; X01 Transformer Troubleshooting
- 200739435; X01 Transformer Oil Sampling
- 200739485; X01 TM 18-0007 Installation
- E-31B Sheet 1; Generator and Transformer Protective Trip and Lockout Relay Circuits; Revision 7
- Temporary Modification 18-0007; Removal of Sudden Pressure Relay Input to X01 Lockout Relay

71111.13—Maintenance Risk Assessments and Emergent Work Control

- NOP-OP-1007; Risk Management; Revision 24
- NOP-OP-1007-001; Risk Management Plan; Revision 5
- 2018-00190; Startup Transformer X01 Lockout
- 2018-00215; Swing arm Not fully seating on the east end of C phase on DCS34560A
- NOP-ER-3001; Problem Solving and Decision Making; Revision 06
- NOP-OP-1010; Operational Decision Making; Revision 07
- NOP-OP-1014; Plant Status Control; Revision 05
- DB-OP-06311; 345 KV Switchyard Main Transformer, Auxiliary Transformer, and Startup Transformers
- DB-OP-06322; Locating grounds on the station 250/125 VDC system; Revision 06
- 200739465; X01 Transformer Troubleshooting
- 200739435; X01 Transformer Oil Sampling
- 200739485; X01 TM 18-0007 Installation
- E-31B Sheet 1; Generator and Transformer Protective Trip and Lockout Relay Circuits; Revision 7
- Temporary Modification 18-0007; Removal of Sudden Pressure Relay Input to X01 Lockout Relay
- DB-SC-03111; Surveillance Test Procedure ;Revision 16
- CR-2017-07281; SFAS Channel 3 L513 Upper 1/5 Light Came on During Testing of Channel 4
- CR-2018-01533; SFAS Channel 1 PS-10 VDC Low When Channel 4 TTBS Placed into CTMT Press Position

- CR-2017-09406; SFAS Channel 3 Output Module L13 Discovered with the Top 1/5 Light Lit for Unknown Reason
- DB-SC-03113; SFAS Channel 4 Functional Test; Revision 16

71111.15—Operability Determinations and Functionality Assessments

- Engineering Evaluation Request 601156782, CAC Bolting Not Installed, March 21, 2018
- CR-2018-02775; DH Pump 2 OB Pump Bearing Oil Leak
- DB-SC-03111; Surveillance Test Procedure; Revision 16
- DB-SC-03115; SFAS Output Logic Test for Actuation Channel 1; Revision 07
- DB-OP-03006; Miscellaneous Instrument Shift Checks; Revision 59
- NOP-ER-2001; Boric Acid Corrosion Control Program; Revision 14
- CR-2018-02855; 20RBACC Leak Reactor Mirror Insulation
- CR-2018-02775; DH Pump 2 OB Pump Bearing Oil Leak
- CR-2018-02827; Oil Sample on Decay Heat Pump #2 O.B. Pump Bearing Grayish in Color
- CR-2018-02681; CAC1, CAC2, CAC3 Air box panels missing several bolts
- CR-2018-01446; SFAS Channel 1 1/5 Lights Lit for Levels 1, 2, and 3
- DB-OP-06311; 345 KV Switchyard Main Transformer, Auxiliary Transformer, and Startup Transformers
- DB-OP-06322; Locating grounds on the station 250/125 VDC system; Revision 06
- 200739465; X01 Transformer Troubleshooting
- 200739435; X01 Transformer Oil Sampling
- 200739485; X01 TM 18-0007 Installation
- E-31B Sheet 1; Generator and Transformer Protective Trip and Lockout Relay Circuits; Revision 7
- Temporary Modification 18-0007; Removal of Sudden Pressure Relay Input to X01 Lockout Relay
- CR-2018-00190; Startup Transformer X01 Lockout
- CR-2018-00215; Swing arm Not fully seating on the east end of C phase on DCS34560A
- CR-2018-01238; High flow on RE4598AA radiation monitor
- CR-2018-01239; Slave link error message on RE4598AA
- CR-2017-05349; RE4598AA high particulate monitor step increase following sample on 5/9/17
- CR-2017-08560; RE4598AA Station vent normal range radiation monitor filter fault
- 200738333; Troubleshoot problem slave link fault
- CR-2018-00569; Full load amps greater than 100 percent during motor testing
- CR-2018-00571; Motor voltage and current above 100% nameplate values during energized testing following maintenance
- CR-2018-00568; C31-2 post maintenance vbe data above PMVL
- 200724601; Replace SFAS Channel 3 BWST level low output module

71111.18—Plant Modifications

- Design Equivalent Change Package 18-0077-001, Install Temporary Pressure Indicator for Makeup/High-Pressure Injection Train 1, March 20, 2018
- 2018-00190; Startup Transformer X01 Lockout
- 2018-00215; Swing arm Not fully seating on the east end of C phase on DCS34560A
- DB-OP-06311; 345 KV Switchyard Main Transformer, Auxiliary Transformer, and Startup Transformers
- DB-OP-06322; Locating grounds on the station 250/125 VDC system; Revision 06
- 200739465; X01 Transformer Troubleshooting
- 200739435; X01 Transformer Oil Sampling

- 200739485; X01 TM 18-0007 Installation
- E-31B Sheet 1; Generator and Transformer Protective Trip and Lockout Relay Circuits; Revision 7
- Temporary Modification 18-0007; Removal of Sudden Pressure Relay Input to X01 Lockout Relay

71111.19—Post Maintenance Testing

- 2018-00352; SFAS CH 2 BA204 LO RCS PRESS TRIP
- DB-OP-06405; Safety Features Actuation System Procedure; Revision 14
- DB-SC-03111; SFAS Channel 2 Functional Test; Revision 16
- DB-MI-03136; Response Time Test SFAS Hot Leg Wide Range Pressure SFAS Channel 2; Revision 10
- DB-MI-03162; Functional Test/Calibration SFAS Hot Leg Wide Range Pressure SFAS Channel 2; Revision 13
- 200700005; SFAS CH 2 BA204 LO RCS PRESS TRIP Troubleshooting
- 200700026; SFAS CH 2 BA204 LO RCS PRESS TRIP Replacement, Calibration and Testing
- 200742938; Containment Pressure High SFAS Channel 4
- 200679106; Decay Heat Train 2 Pump and Valve Test (Mode 1-3)
- 200679107; Decay Heat Train 2 Pump and Valve Test (Mode 1-3)
- 200679108; Decay Heat Train 2 Pump and Valve Test (Mode 1-3)
- 200679109; Decay Heat Train 2 Pump and Valve Test (Mode 1-3)
- DB-SP-03447; Decay Heat Train 2 Pump and Valve Test (Mode 1-3); Revision 3
- DB-OP-03013; Containment Daily Inspection and Containment Closeout Inspection; Revision 10
- CR-2018-02863; AFPT1 Shaft to Casing Leak While on High Speed Stop
- Procedure DB-SC-03071, Emergency Diesel Generator 2 Monthly Test, Revision 35

71111.20—Refueling and Other Outage Activities

- CR-2018-02857; Team 2 Containment Findings
- CR-2018-02862; Black Zip-ties on Every Flower Pot in the Incore Tank
- CR-2018-02769; External Oversight Identified Items Needing Resolution in Containment Prior to Mode 4 Operations
- NOBP-OP-1004-02; Cycle 20 end of life maneuvers

71111.22—Surveillance Testing

- CR-2017-09015; MS-C-17-08-03 Incomplete Radiography Records
- CR-2017-08737; NRC Precondition Concern — Test Sequencing of HP32 in DB-SP-03218
- CR-2017-05469; PS2883A Design Pressure in Question During HP2B Quarterly Time Valve Stroke Test
- DB-SP-03218; HPI Train 1 Pump and Valve Test; Revision 29
- 200665647; High Pressure Injection Pump 1 Quarterly FA Normal
- 200651850; High Pressure Injection Pump 1 Quarterly FA Normal
- 200730860; High Pressure Injection Train 1 Quarterly Pump and Valve Test
- DB-PF-03008; Containment Local Leakage Rate Tests; Revision 21
- DB-SP-03151; AFP 1 Quarterly Test; Revision 26
- DB-PF-03094; Closure and Leak Testing of HP23; Revision 06
- 200686561; ECCS Integrated Train 2 Leakage Test
- DB-PF-03012; ECCS Integrated Train 2 Leakage Test; Revision 21
- 200686844; Integrated SFAS Act Channel 1 FA Normal FL

- DB-SC-03114; Response Time Calculation Sheets; Revision 20
- DB-SC-03270; Control Rod Assembly Insertion time Test; Revision 14
- 200650107; Emergency Ventilation System Train 1 Refueling Interval SFAS Drawdown Test
- 200686955; CR EVS Train 1 RFLG Test
- DB-SS-03710; Isolation Damper Closure Times; Revision 13
- 200686848; Discharge Valve HP2C/2D Discharge Valve Test FA Normal
- 200653402; Containment Air Cooling Unit 1 18 Month Test
- 200602374; Containment Air Cooling Unit 3 18 Month Test
- 200612629; ACT Channel 1 Integrated SFAS Integrated SFAS ACT Channel 1 FA Normal Rfl
- 200686712; MU2A Stroke Times Rfl Csdn
- 200671624; Train 2 Valve Strokes FA Normal
- 200686715; MU59A Stroke Times Rfl Csdn
- 200686716; MU59B Stroke Times Csdn Rfl
- 200686717; MU59C Stroke Times Rfl Csdn
- 200686718; MU9D Stroke Times Rfl Csdn
- Procedure DB-PF-03008, Attachment 6AD, LLRT of Penetration 33, Containment Vessel Purge Inlet Line, Revision 21
- DB-SC-03022; Off-site AC sources bus transfer test
- CR-2018-00926; Higher than normal unidentified leakage found during RCS leak rate calculations
- 200686405; Perform DB-ME3002-09; Station battery service and performance discharge test
- 200686404; Perform DB-ME3002-10; Station battery service and performance discharge test
- CR-2010-79506; IST required MSSV testing discrepancy
- CR-2007-31717; MSSV testing requires an engineering calculation
- 200618666; Perform Main steam safety valve setpoint test
- 200618663; Perform Main steam safety valve setpoint test

71114.06—Drill Evaluation

- 2018-00197; Completion of Initial Notification Form
- NOP-LP-5011; Emergency Response Drill and Exercise Program; Revision 10
- RA-EP-00200; Emergency Plan Drill and Exercise Program; Revision 12
- RA-EP-01500; Emergency Classification; Revision 16
- RA-EP-01900; General Emergency; Revision 10
- RA-EP-02110; Emergency Notification; Revision 16
- 1st Quarter 2018 Emergency Response Organization Drill; Revision 0

71111.24—Radiation Safety

- CR-2017-06609; Improper Detector Used During Leak Test of Two Licensed Sources; 06/15/2017
- CR-2018-01692; NRC Questions Regarding Purging/Flushing of RE 4598, Station Vent Monitors; 02/26/2018
- CR-2018-02080; RWP and ALARA Plan Found Not Matching in Respect to Respiratory Protection Requirements; 03/07/2018
- CR-2018-02139; Individual Entered Non-Permit Confined Space Without the Shiftly Air Sample Completed; 03/08/2018
- CR-2018-0284; Worker Dress Requirements Changed Without Field Change to RWP; 03/07/2018
- DB-HP-01109; Significant Radiological Evolution Barriers; Revision 32
- NOP-OP-4005; ALARA Program; Revision 6
- NOP-OP-4102; Radiological Posting and Labeling; Revision 13

- NOP-OP-4107; Radiation Work Permit (RWP); Revision 16
- NOP-OP-4107; Radiation Work Permit (RWP); Revision 18
- NOP-OP-4204; Special External Exposure Monitoring; Revision 10
- NOP-OP-4503; Personnel Contamination Monitoring; Revision 13
- NOP-OP-4701; Radiation and Contamination Surveys; Revision 3
- NOP-OP-4702; Air Sampling – FENOC Specific; Revision 7
- NOP-OP-4704; Air Sampling – General; Revision 0
- Air/Gas Quality Report & Certificate; Bauer SCBA Bottle Fill Compressor SN 1.14.2; Multiple Dates between 06/29/2016 and 12/20/2017
- Air/Gas Quality Report & Certificate; Station Air Compressor; Multiple Dates between 06/29/2016 and 12/20/2017
- Radiation Work Permit and Associated ALARA File; RWP 2018-5050; HP80 Work Activities; Multiple Dates
- Radiation Work Permit and Associated ALARA File; RWP 2018-5104; Reactor Head Disassembly / Reassembly Work Activities; Multiple Dates
- Radiation Work Permit and Associated ALARA File; RWP 2018-5107; Refuel Activities; Multiple Dates
- Radiation Work Permit and Associated ALARA File; RWP 2018-5302; Steam Generator Activities; Multiple Dates
- Surveillance Test DB-HP3000-001; Inventory and Leak Testing of Licensed Sources; 05/15/2017
- Surveillance Test DB-HP3000-001; Inventory and Leak Testing of Licensed Sources; 12/18/2017

71151—Performance Indicator Verification

- Various Unit Log entries

71152—Problem Identification and Resolution

- 2017-03523; Corroded Piping Upstream of SW260
- 2018-00938; Additional Wall Thinning Found in SW Piping Upstream of SW260
- NOP-OP-1009; Operability Determinations and Functionality Assessments; Revision 07
- CR-2018-00938; Additional wall thinning found in SW piping upstream of SW260
- CR-2017-03523; Evaluation of pin hole leak in 6” HBC-035